

# FortisBIO™ C18

FortisBIO™ C18 is a 300Å material specifically optimised for the retention and resolution of peptides and proteins. Based upon our traditional silica and bonded technology, sharp peak shapes, excellent analyte recovery and high sensitivity can all be achieved whether in analytical scale or in UHPLC scale. Improvements in sensitivity and resolution of peptides, proteins, tryptic digests can all be gained with the minimum of effort

- 300Å Pore size optimised for Peptides and Proteins
- 1.7µm UHPLC particle size - increases sensitivity options
- Sharp efficient peak shapes
- Fully scaleable 1.7µm - 5µm particle sizes for method transfer

## 1.7µm FortisBIO C18 - INCREASE SENSITIVITY

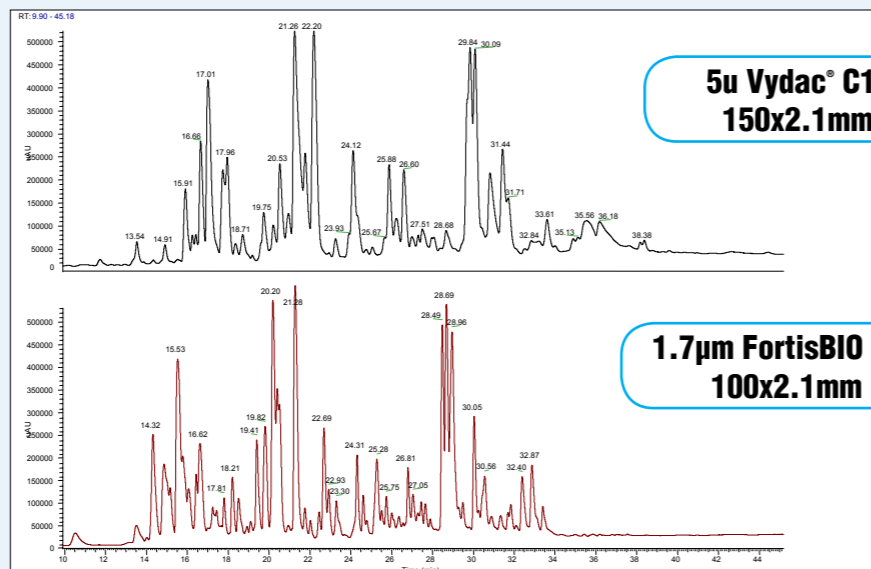
FortisBIO™ C18 is available as 1.7µm particle size for use in UHPLC, this means that sensitivity of methods and resolution of complex mixtures such as tryptic digests and closely related peptides can be improved:

### – Sharp Peaks

1.7µm FortisBIO's sharp peak shapes provide a high level of resolution between compounds. Efficiency of this small particle and its ability to work at high pressure means that methods can now be developed with more speed.

### – Increase Sensitivity

If you use a small 1.7µm particle then sensitivity of low abundance peptides will be enhanced.



## FortisBIO C18 - FULLY SCALEABLE

FortisBIO 300Å material is available as 1.7µm for use in UHPLC or as 5µm for use in analytical LC. A pure silica porous particle and optimum bonding chemistry leads to fully scaleable methods, reducing the time spent in method development and QC/QA transfer.

### – Improved Scaling

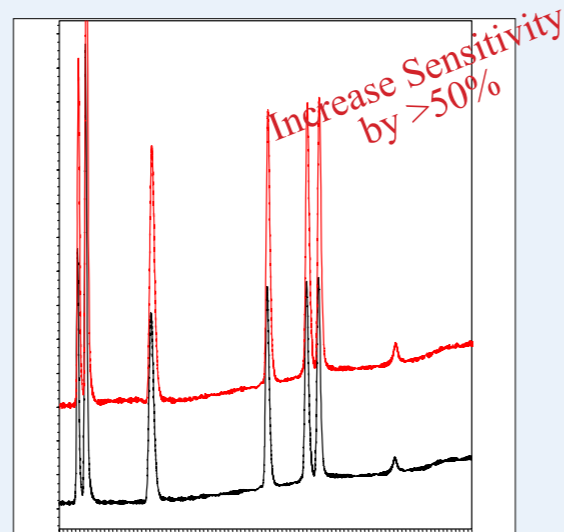
FortisBIO C18 provides the same selectivity whichever particle size is chosen.

However in the region of 50% gain in peak sensitivity can be achieved by moving to UHPLC.

– FortisBIO C18 50x2.1mm 1.7µm

– FortisBIO C18 50x2.1mm 5µm

1. GLY-TYR (238.2MW)
2. VAL-TYR-VAL (379.5 MW)
3. MET-Enkephalin (573.7)
4. LEU-Enkephalin (555.6 MW)
5. Angiotensin II (1046.2 MW)



## FortisBIO C18 - PEPTIDES

The excellent surface coverage of the C18 ligand on the FortisBIO 300Å material gives multiple benefits for peptide analysis:

### – Improved Peak Shape

FortisBIO C18 is built around the same bonding technology as our existing small molecule C18 hence superior peak shapes are achieved.

### – Improved Sensitivity

If you can improve peak shape then you will improve both resolution and sensitivity of the method.

1. GLY-TYR (238.2MW)
2. VAL-TYR-VAL (379.5 MW)
3. MET-Enkephalin (573.7)
4. LEU-Enkephalin (555.6 MW)
5. Angiotensin II (1046.2 MW)

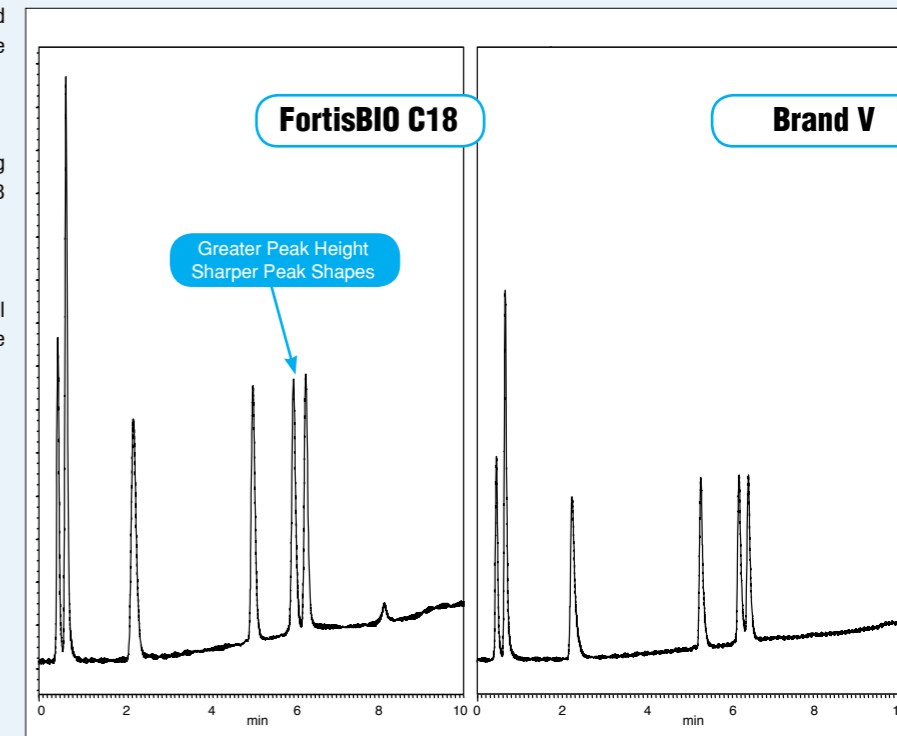
Columns: 50x2.1mm 5µ

A: 0.1% TFA

B: 0.1% TFA in ACN

10-40% B in 10min

λ - 220nm



## FortisBIO C18 - PROTEINS

The excellent surface coverage of the C18 ligand on the FortisBIO 300Å material gives multiple benefits for protein analysis:

### – Improved Recovery

FortisBIO C18 provides sharp peak shapes due to the surface coverage, this provides increased recovery of protein samples.

### – Improved Reproducibility

By having a controlled surface coverage reproducibility of the analysis is improved from sample to sample.

1. Ribonuclease A
2. Cytochrome C
3. Halo-Transferrin
4. Apomyoglobin

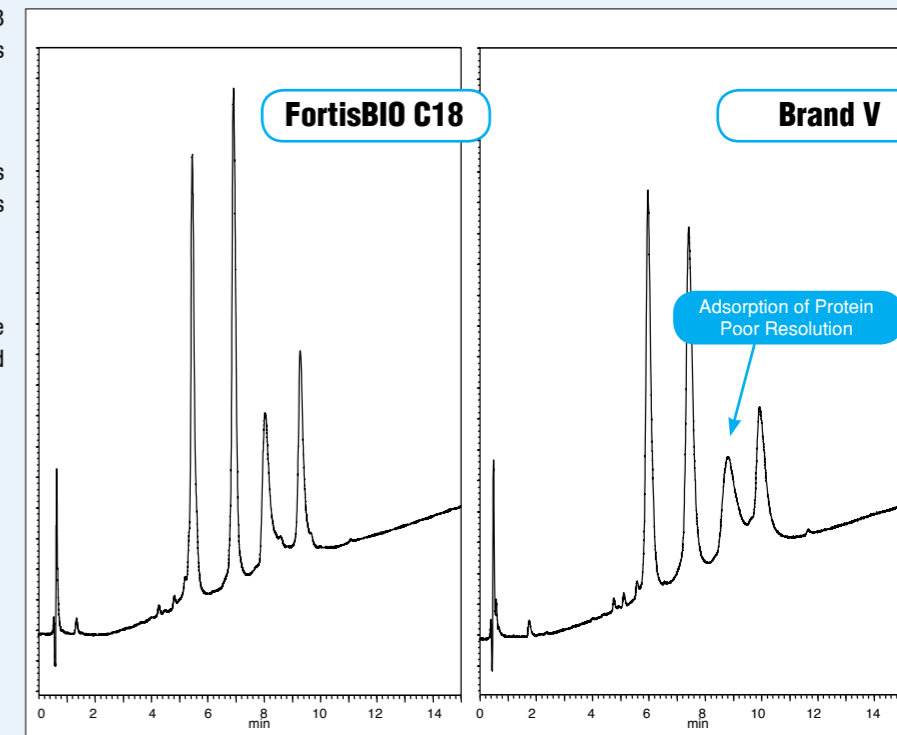
Columns: 50x2.1mm 5µ

A: 0.1% Formic acid

B: 0.1% Formic acid in ACN

10-60% B in 15min

λ - 220nm



## Improve Recovery

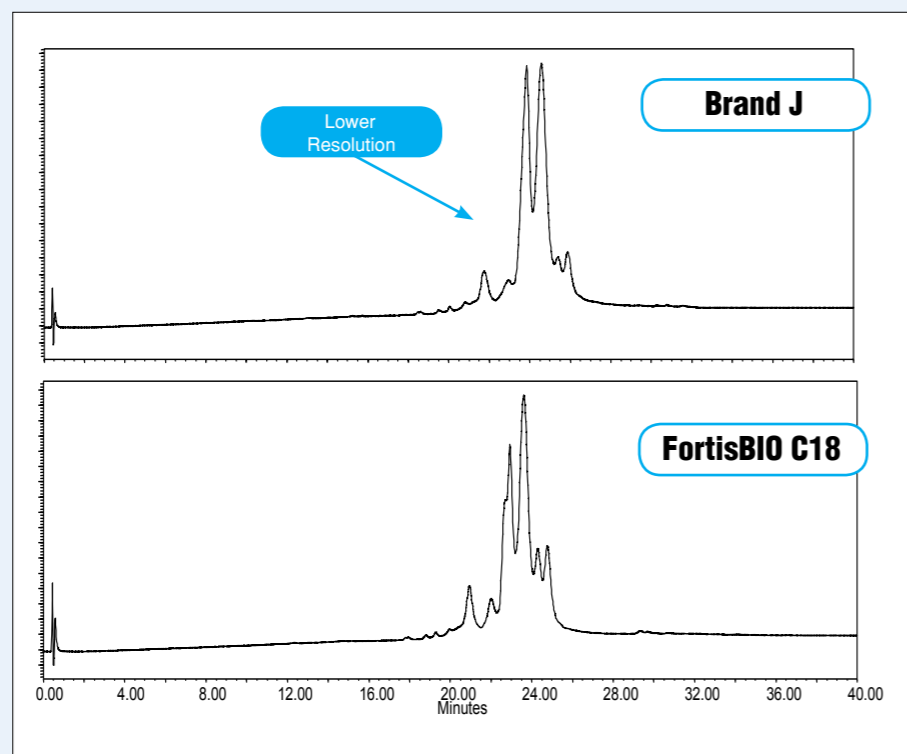
### FortisBIO C18 - CASEIN COMPARISON

Recovery of proteins is of paramount importance to the analyst, FortisBIO C18 ensures good peak shape, resolution and recovery of complex protein and peptide samples.

If recovery of low abundance proteins is reduced then sensitivity will be degraded for these proteins.

5µm FortisBIO C18 50x2.1mm

A: 0.1% Formic acid in Water  
B: 0.1% Formic acid in ACN  
10-60% Gradient in 15mins  
214nm



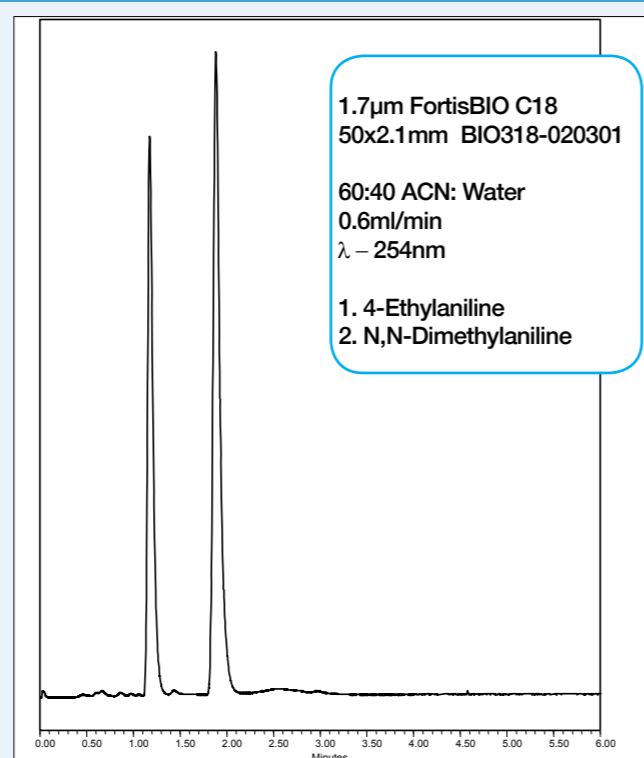
### FortisBIO C18 - BASIC PEAK SHAPES

Peak Shapes are of great significance in analysis of biomolecules since both resolution of structurally similar compounds and also sensitivity of molecules will be heavily effected.

FortisBIO C18 and C4 are both manufactured to ensure that surface coverage is high, therefore reducing any secondary negative interactions which could compromise peaks shapes.

Small basic probes prove whether there are any secondary silanol interactions which would compromise peak shapes.

Basic Compound	Asymmetry Competitor	Asymmetry FortisBIO C18
4-Ethylaniline	1.58	1.30
N,N- Dimethylaniline	1.52	1.28



## Reproducibility

### REPRODUCIBILITY

The excellent surface coverage of the C18 ligand on the FortisBIO 300Å material gives multiple benefits for peptide analysis:

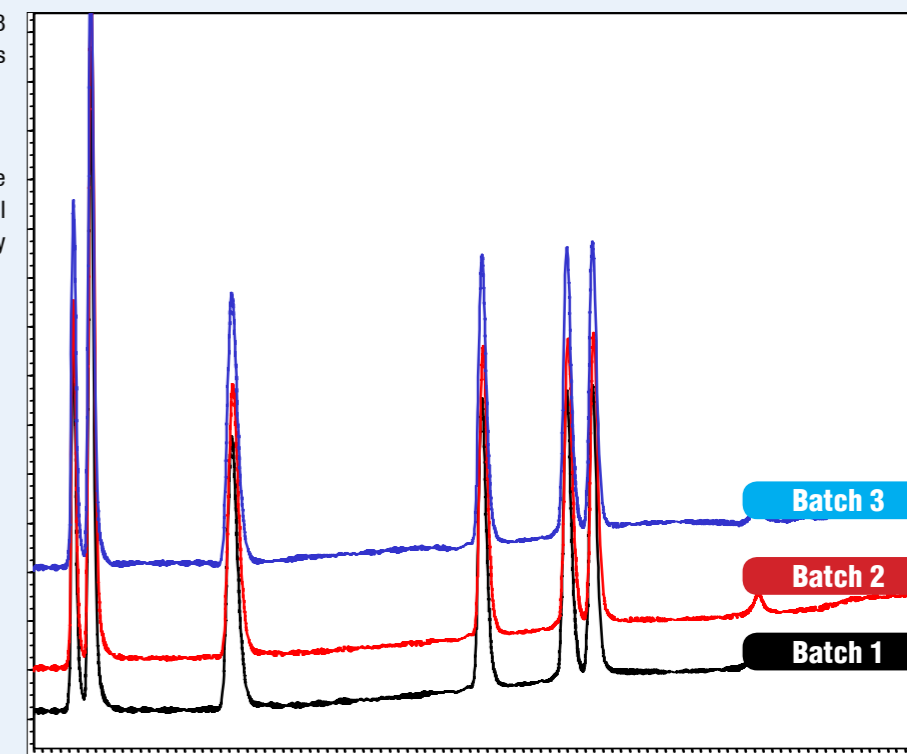
#### - Improved Reproducibility

FortisBIO C18 is built around the same bonding technology as our existing small molecule C18 (100Å ) hence reproducibility is assured. A most important variable

#### - Different Batches

Multiple batches show reproducible results

1. GLY-TYR (238.2MW)
2. VAL-TYR-VAL (379.5 MW)
3. MET-Enkephalin (573.7)
4. LEU-Enkephalin (555.6 MW)
5. Angiotensin II (1046.2 MW)



### REPRODUCIBILITY

The excellent surface coverage of the C18 ligand on the FortisBIO 300Å material gives multiple benefits for protein analysis:

#### - Improved Recovery

FortisBIO C18 provides sharp peak shapes due to the surface coverage ligand, this provides increased recovery of protein samples.

#### - Improved Reproducibility

By having a controlled surface coverage reproducibility of the analysis is improved from sample to sample.

- Probe 1
- Probe 2

